

CLAIMS

We claim:

- 5 1. A method of verifying an imageable media is securely fastened to a support surface of an imaging machine, said method comprising the steps of:
- providing an imageable media, wherein said media is mounted onto a support surface of a drum
imaging machine;
- 10 focusing a light beam onto said imageable media using an auto focus system by varying a position of a focusing lens relative to said imageable media;
- directing light reflected from said imageable media onto a light sensor, said light sensor operative
for providing an electrical signal representative of a focus condition of said light beam on
said imageable media;
- 15 fixing a position of said focusing lens in response to said electrical signal falling below a first predetermined value indicating said light beam is focused onto said imageable media;
- 20 maintaining said fixed position of said focusing lens after said light beam is in focus;
- rotating said drum slowly while monitoring said electrical signal provided by said light
sensor;and
- 25 stopping said rotation of said drum if said electrical signal exceeds a second predetermined value indicating said imageable media is not securely fastened to said surface.
2. The method of claim 1 further comprising the step of allowing said drum to reach normal
operating speed if said electrical signal fails to exceed said second predetermined value after
said drum is rotated a distance corresponding to a predetermined length of said plate.
- 30 3. The method of claim 1 further comprising the steps of providing an alarm to an operator if said electrical signal exceeds said second predetermined value, and further, preventing said drum
from being rotated until said imaging machine is reset.
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4. The method of claim 1 wherein said drum further comprises a plurality of clamps operative to fasten two ends of said imageable media to said support surface.

5. The method of claim 1 wherein said beam of light is directed horizontally, and impinges upon a portion of said imageable media positioned above or below a spin axis of said drum.

6. The method of claim 5 wherein said light reflected from said imageable media is diffuse light.

7. A method of verifying a recordable substrate is securely fastened to a surface of an external drum printing machine, said method comprising the steps of:

providing a recordable substrate, wherein said recordable substrate is mounted onto a support surface of an external drum printing machine;

focusing a light beam onto said recordable substrate;

directing light reflected from said recordable substrate onto a light sensor, said light sensor operative for providing an electrical signal representative of a focus condition of said light beam impinging on said recordable substrate;

establishing a reference signal indicating said light beam is focused onto said recordable substrate;

rotating said drum while monitoring said electrical signal provided by said light sensor; and

stopping said rotation of said drum if said electrical signal deviates from said reference signal indicating said recordable substrate is not securely fastened to said surface.

8. The method of claim 7 further comprising the step of allowing said drum to attain normal operating speed if said electrical signal fails to deviate from said reference signal after said drum is rotated a distance corresponding to a predetermined length of said recordable substrate.

9. The method of claim 7 further comprising the steps of providing an alarm to an operator if said electrical signal deviates from said reference signal, and further, preventing said drum from being rotated until said printing machine is reset.

5 10. A method of verifying a printing plate has a first end and a second end securely clamped to a surface of an external drum platesetter, said method comprising the steps of:

10 providing a printing plate, wherein said plate is assumed to have both a first end and a second end securely clamped onto a surface of a drum of an external drum platesetter using a first clamp and a second clamp respectively;

rotating said external drum to position said first clamp proximate to an incident light beam such that said incident light beam impinges onto a portion of said first end of said plate;

15 focusing said incident light beam onto said printing plate using an auto focus system by varying a position of a focusing lens relative to said plate;

20 directing light reflected from said plate onto a light sensor, said light sensor operative for providing an electrical signal representative of a focus condition of said light beam on said printing plate;

25 monitoring said electrical signal provided by said light sensor, and fixing a position of said focusing lens when said electrical signal falls below a first predetermined value indicating said light beam is focused onto said printing plate;

maintaining said fixed position of said focusing lens after said light beam is in focus;

rotating said drum slowly along a longitudinal length of said printing plate while monitoring said electrical signal provided by said light sensor;

30 stopping said rotation of said drum if said electrical signal exceeds a second predetermined value indicating said printing plate is not securely clamped to said surface; and wherein said incident light beam impinges upon said printing plate either above or below a spin axis of said drum.

11. The method of claim 10 further comprising the step of allowing said drum to reach normal operating speed if said electrical signal fails to exceed said second predetermined value after said drum is rotated a distance corresponding to a predetermined length of said plate.

12. The method of claim 10 further comprising the steps of providing an alarm to an operator if said electrical signal exceeds said second predetermined value, and further, preventing said drum from being rotated until said imaging machine is reset.

13. The method of claim 10 wherein said light reflected from said imageable media is diffuse light.

14. A system for verifying an imageable media is securely fastened to a support surface of a machine, said system comprising:

a support surface for mounting an imageable media thereon;

an autofocus system for focusing a light beam onto said imageable media;

a position controlling system for producing an electrical signal representative of a spatial position of a focusing lens of said autofocus system; and

a controller operative to control said autofocus system in a first mode of operation such that said focusing lens is positioned relative to said imageable media to obtain a desired focus condition of said light beam onto said imageable media, and then, said controller operating in a second mode of operation operative to lock said focusing lens in a spatial position correlating to said desired focus condition, using said position controlling system.

15. The system of claim 14 wherein said machine is a platesetter or an imagesetter.

16. The system of claim 14 wherein said machine is a printing press.

17. The system of claim 14 wherein said position controlling system comprises a magnet fixedly coupled to said focusing lens, and a hall effect sensor located proximate to said magnet, said hall effect sensor operative to produce said electrical signal representative of said spatial position of said focusing lens.

18. The system of claim 14 wherein said position controlling system comprises a proximity sensor positioned proximate to said focusing lens, said proximity sensor operative to produce said electrical signal representative of said spatial position of said focusing lens.
- 5 19. The system of claim 14 wherein said support surface is a rotatable external drum.
20. The system of claim 19 wherein said beam of light is directed horizontally, and impinges upon a portion of said imageable media positioned above or below a spin axis of said drum.
- 10 21. The system of claim 20 wherein said support surface further comprises a plurality of clamps operative to fasten two ends of said imageable media to said support surface.
22. The system of claim 20 wherein said reflected light is diffuse light.
- 15 23. The system of claim 14 further comprising an alarm circuit operative to alert an operator of a condition wherein said imageable media is determined to be unsecured to said drum.
- 20 24. The system of claim 14 further comprising a reset circuit operative to prevent said drum from further rotation until said reset circuit is activated by an operator.